

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/661,031	MOON ET AL.	
	Examiner	Art Unit	
	Arnel C. Lavarias	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 2/5/07.
2.  The allowed claim(s) is/are 20-93,95-153,155-157 (renumbered 1-136).
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of  
 Paper No./Mail Date \_\_\_\_\_.

Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
 Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
 of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
 Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**DETAILED ACTION**

***Terminal Disclaimer***

1. The terminal disclaimer filed on 2/5/07 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Nos. 10/661254, 10/661082, 10/763995, and 11/206987 has been reviewed and is accepted. The terminal disclaimer has been recorded.

***Allowable Subject Matter***

2. Claims 20-93, 95-153, 155-157 are allowed.

**REASONS FOR ALLOWANCE**

3. The following is an examiner's statement of reasons for allowance:

Claims 20, 58 are allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest an optical identification element or an encoded particle having a chemical attached thereto, as generally set forth in Claims 20, 58, the optical identification element or encoded particle including, in combination with the features recited in Claims 20, 58, at least a portion of the substrate or particle being made of a substantially single material and having at least one diffraction grating embedded therein, the grating having a resultant refractive index variation within the substantially single material, the grating providing an output signal indicative of a code when illuminated by an incident light signal propagating from outside the substrate.

Claims 21-57, 59-93, 95 are dependent on Claims 20, 58, and hence are allowable for at least the same reasons Claims 20, 58 are allowable.

Claims 96, 116 are allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a method of reading an encoded optical identification element or particle having a chemical attached thereto, as generally set forth in Claims 96, 116, the method including, in combination with the features recited in Claims 96, 116, at least a portion of the substrate or particle being made of a substantially single material and having at least one diffraction grating embedded therein, the grating having a resultant refractive index variation within the substantially single material, the substrate or particle providing an output optical signal indicative of a code when illuminated by an incident light signal. Claims 97-115, 117-135 are dependent on Claims 96, 116, and hence are allowable for at least the same reasons Claims 96, 116 are allowable.

Claim 136 is allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a method of performing a multiplexed particle assay, as generally set forth in Claim 136, the method including, in combination with the features recited in Claim 136, a plurality of particles being made of a substantially single material and having at least one diffraction grating embedded therein, the grating having a resultant refractive index variation within the substantially single material, and illuminating said particles with a first and second incident light, said particle providing a first output optical signal responsive to said first incident light indicative of a code and a second output optical signal responsive to said second incident

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light indicative of a label. Claims 137-153, 155-157 are dependent on Claim 136, and hence are allowable for at least the same reasons Claim 136 is allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarrias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arnel C. Lavarias  
Primary Examiner  
Group Art Unit 2872  
6/28/07



ARNEL LAVARIAS  
PRIMARY PATENT EXAMINER